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The ENTOMOLOGICAL
SOCIETY of VICTORIA**

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The ENTOMOLOGICAL SOCIETY of VICTORIA (Inc.)

MEMBERSHIP

Any person with an interest in entomology shall be eligible for Ordinary Membership. Members of the Society include professional, amateur and student entomologists, all of whom receive the Society's News Bulletin, the Victorian Entomologist.

OBJECTIVES

The aims of the Society are :

- (a) to stimulate the scientific study and discussion of all aspects of entomology,
- (b) to gather, disseminate and record knowledge of all identifiable Australian insect species,
- (c) to compile a comprehensive list of all Victorian insect species and
- (d) to bring together in a congenial but scientific atmosphere all persons interested in entomology.

MEETINGS

The Society's meetings are held at Clunies Ross House, National Science Centre, 191 Royal Parade, Parkville, Victoria, at 8 pm on the third Friday of even months, with the possible exception of the December meeting which may be held earlier. Lectures by guest speakers or members are a feature of many meetings at which there is ample opportunity for informal discussion between members with similar interests. Forums are also conducted by members on their own particular interest so that others may participate in discussions.

SUBSCRIPTIONS

Ordinary Member	\$10.00
Country Member	\$ 8.00 (100 km + from GPO)
Student Member	\$ 5.00
Associate Member	\$ 2.00 (no magazine)

No additional fee is payable for overseas posting by surface mail of the News Bulletin. Associate Members, resident at the same address as, and being immediate relatives of an Ordinary Member, do not automatically receive a copy of the Society's publications but in all other respects rank as Ordinary Members.

MINUTES OF THE GENERAL MEETING, 17 FEBRUARY 1989

The President opened the meeting at 8.05 pm, and welcomed members and guests.

Apologies: R. Gordon

Present: G. Berg, G. & Joy Burns, John Burns, P. Carwardine, K. Clark, M. & P. Coupar, D. Crosby, L., K. & J. Dunn, I. Faithfull, R. & J. Field, D. & J. Holmes, M. Hunting, P. Kelly, G. Krake, T. New, T. Timescu, R. Vagi, B. Vardy.

Minutes of the December meeting (Vic. Ent. 19: 1-2) were passed
(D. Holmes/Clark)

K. Walker then introduced the speaker, G. Berg, to talk on control of pasture scarabs. Gordon gave a wide-ranging talk, discussing the potential of nematodes for the control of scarabs in turf farms and pasture, and other pests with soil-dwelling larvae - such as white-fringed weevil. After considerable discussion, a vote of thanks was proposed by R. Field.

Correspondence: detailed and received (R. Field/Kelly)

Treasurer's report: G. Burns reported credit balances of \$2294.90 (general acct.), \$1814.68 (memorial acct.) and \$421.61 (Junior encouragement fund). There are currently 46 financial members. Received (Carwardine/Crosby).

Editor. John Burns has agreed to take over from I. Faithfull as Editor. In welcoming John, K. Walker also thanked Ian for his indefatigable work over the last few years, during which his work on the Victorian Entomologist has been appreciated by all members. The vote of thanks to Ian was received with substantial applause.

Thanks are extended also to N. Quick for the new cover drawing, of the moth Epicoma melanospila.

Excursions. P. Carwardine asked for suggestions for possible indoor winter excursions. D. Crosby to investigate possibility of the Butterfly House at the Zoo.

General Business.

- i) As M. Braby has formally resigned from Council because of his recent move to Townsville, Council has decided to co-opt the following as members, to replace Michael and to fill the other vacancies: M. & P. Coupar, B. Vardy. John Burns also becomes a council member, ex officio.
- ii) D. Holmes drew members attention to N. McFarland's recent book on life histories of the geometrid moths of South Australia. Details available from him or the Secretary. Price around \$US 80.
- iii) K. Walker showed a copy of Vol. I of the new Fauna of Australia series (AGPS 1988), which contains general articles of likely interest to members.
- iv) D. Holmes. A drawer of various forms of Papilio memnon, with different morphs from Japan, Malaysia, and Indonesia. Brief discussion on mimicry followed.
- v) K. Clark. A drawer of insects from Townsville and nearby areas collected during his recent trip. They included Tisiphone helena from Paluma.

- vi) I. Faithfull. a, Photographs of a large crane-fly from near Pt. MacQuarie.
b, Several small lycaenids and an ithonid lacewing.
- vii) D. Crosby. a) Discussed aspects of his recent surveys for Hesperilla flavescens and similar skippers in many parts of western Victoria, and of the conservation of these species. He showed aerial photographs of Altona taken in 1962 and 1972 to illustrate the rapid urban expansion and habitat change during that period.
b) Drew members' attention to a recent publisher's notice (E.W. Classey Ltd) of possible revival of A. Atkins' proposed monograph on the Hesperiliidae.
c) Commented on aspects of the Fauna and Flora Guarantee, and the need for the Society to coordinate a list of butterflies and sites which need protection within Victoria.
d) A box of insects from the Point Cook area.
- viii) K. Walker: comments on the recent cricket plague in Melbourne.

The next meeting will feature a talk on Butterfly Photography by Mr R.H. Fisher, the most recent winner of the Zoo Le Souëf Memorial Award.

The meeting closed at 9.55 pm.

MINUTES OF THE COUNCIL MEETING, MARCH 17 1989

The President K. Walker, opened the meeting at 8pm

Present: G. & Joy Burns, John Burns, P. Carwardine, M. & P. Coupar, D. Crosby, M. Hunting, P. Kelly, T. New.

The President welcomed John Burns and Mike and Pat Coupar to their first council meeting.

Minutes of the September Council Meeting (Vic. Ent. 18: 79-81) were passed (Crosby/Kelly).

Correspondence. Detailed and received. (G. Burns/John Burns).

Treasurer's Report. G. Burns reported credit balances of \$2347.75 (general acct.), \$1814.68 (Le Souef Memorial Fund) and \$421.61 (Junior Encouragement Fund). There are at present 65 financial members. Discussion ensued over costs of the Victorian Entomologist, and the Treasurer foreshadowed the likely need for a subscription increase in 1990. Received (Crosby/M. Coupar).

Editor's Report: John Burns reported on production of current numbers of the Victorian Entomologist: he is providing pre-reduced copy to the printer as a safeguard for quality control. Several ideas for inclusions were discussed. Received (Kelly/Joy Burns).

General Business:

- i) A proposal to accord life membership was discussed at length, and Council decided not to award this distinction to the nominee.
- ii) Junior encouragement fund. Discussions continued on this. The secretary to approach the Field Naturalists Club to investigate the needs for support of the Junior Naturalists Club in the Melbourne area.
- iii) Conservation. David Crosby reported on recent events in Butterfly Conservation, and displayed copies of recent reports on the Eltham Copper, Altona Skipper and Wetlands Conservation. A letter on the Eltham Copper in the Sun (March 17) was tabled and discussed.
- iv) Programme. Ideas were canvassed for meetings later this year. Because the April meeting is now to feature a talk by Mr R.H. Fisher, the short talks by members will now constitute the August meeting. Likely speakers include John Burns and Mike & Pat Coupar.
- v) Le Souef Memorial Award. Council agreed to advertise for nominations for the Award, and to insert a notice of Mr Fisher's talk in The Age entertainment guide.
- vi) Constitution. D. Crosby, as Public Officer, distributed copies of the revised Constitution, containing the amendment now accepted by the Taxation Office as granting the Society exempt status.

The meeting closed at 9.30pm.

HONORARY TREASURER'S REPORT.

ENTOMOLOGICAL SOCIETY OF VICTORIA INC.

STATEMENT OF RECEIRTS AND PAYMENTS YEAR ENDING 31/12/88

RECEIPTS

Subscriptions	683	00
Advertising in Magazine	12	00
Sale of Lepidoptera Maps	55	00
Sale of Magazines	35	00
Interest Term Deposit	164	00
Interest General Account	32	63
Two Tim New B/fly Conservation Bk	14	00
Members X-mas party cotributions	57	00
Reimbursement from Brill	70	27
	1999	27

PAYMENTS

Magazine Copying	300	24
Postal Registration	40	00
Postage(Magazine)	206	26
Postage(Editor)	24	39
Typewriter ribbon	5	00
Glue Stick,Corrector paper	6	45
Printing Newsletter covers	23	25
Envelopes	113	50
Photocopying(Editor)	12	80
Postage (Treasurer)	14	80
Receipt Book	1	85
Meeting facilities	106	00
Use of Projector	49	00
Entertaining Speakers	47	50
X-mas Party	48	00
Affiliation Aust Ent. Soc.	30	00
Entrec Registration	6	00
Lepidoptera Maps Expenses	2	20
F.I.D.	3	34
B.A.D.T.	5	75
Tim New Butterfly Conserv' B'ks	14	00
Incorporation Expenses	170	68
Rubber Stamp	14	00
Trans to Junior Encouragement Fund	120	00
Credit Balance General A/C	722	34
	2084	35
Less unrepresented Cheques		
Editor Expenses	85	08
	1999	27

Statement of Assets

Credit Balance General A/C	637	26
Term Deposit	1500	00
9 Copies Lepidoptera Maps	90	00
	2227	26

J.C. Le Souef Memorial Fund

Statement of Receipts and Payments-Year Ending 31st Decemberv1988.

RECEIPTS

Interest S.E.C. Bonds	185	50
Interest Pass Book	16	42
Credit Balance Brought for'd	512	82
	714	74

PAYMENTS

Trans to Junior Encouragement Fund	300	00
F.I.D. Tax		06
Credit Balance Passbook	414	68
	714	74

STATEMENT OF ASSETTS

Credit Balance Passbook	414	68
s.e.c. Power Bonds	1400	00
	1814	68

JUNIOR ENCOURAGEMENT FUND

RECEIPTS

Trans from General Account	120	00
Trans from Memorial Fund	300	00
Interst Passbook	1	69
Credit Balance B/F	421	69

PAYMENTS

F.I.D. Tax		03
Credit Balance Passbook	421	61
	421	69

Robert H Fisher, SA Museum, North Terrace Adelaide

To those interested in entomology the photography of insects provides a very interesting and satisfying alternative to making collections. In my own field, the study of butterflies, I have long been concerned at what seems to be a continuing decline in the abundance of our species, brought about quite obviously by the destruction of so many of their natural habitats in the course of man's efforts to provide for his own survival. In the last six years or so, rather than continuing to collect specimens, I have been particularly involved in photographing the complete life histories of those Australian species that have been available to me. The equipment and techniques I have used successfully are presented here. Some of the results will be shown as projected transparencies at the meeting of the Entomological Society of Victoria to be held on April 21.

Camera. A single lens reflex (SLR) 35 mm camera is the obvious choice. I use a Canon AT-1, now a superseded model, but there are many other reputable brands available. Sophisticated and automatic control mechanisms are not necessary; in fact manual control of exposure and aperture is desirable, although an accurate inbuilt exposure meter is required. For adult butterflies and large larvae and pupae I use a 100 mm Canon FD Macro-lens, with or without an automatic extension tube which forms part of the lens. This gives a range of magnifications (on the film) of up to 1 : 1. For greater magnification, such as that required for eggs and small larvae, I use an old Zeiss Tessar 50 mm lens with an automatic diaphragm, coupled with sets of bellows and extension tubes, but other good quality automatic lens of this focal length would be suitable. An adapter ring is necessary to fit the threaded attachment of these to the bayonet fitting of the camera. When this lens is extended thus to the maximum of about 330 mm from the camera, a magnification of about 10 or 12x is possible. Commercial extension bellows are expensive; keen handypersons make their own extensions from cardboard postal tubes, painted inside matte black.

Lighting. In macro photography much light is lost by reason of the extension of the lens from the camera. As a result the use of longer exposure times and larger apertures becomes necessary. Hand held exposures become difficult and depth of focus is reduced. These problems can be

overcome in many cases by using a tripod, but this is quite impracticable when photographing active insects such as adult butterflies unless, as will be shown later, the insects are under captive conditions. Although sunlight can produce some aesthetically very pleasing results and must not be ignored, an appropriate flash unit becomes one's most useful accessory. Mine is a National FE-250S with a head which will rotate through a vertical angle of 90 degrees. It is mounted to one side of the camera on an aluminium bracket in such a way that the light rays reach the subject at an angle of about 45 degrees. This gives much more detail on the flat surface of a butterfly's wings than, for instance, if the unit is mounted by its shoe on top of the camera. The rotatable head of the flash is aligned with a point about 25 cm in front of the lens. Ring flashes should be avoided as they give a very flat light, and a single laterally mounted flash gives better results than two flashes, mounted one each side.

Film. Reversal film, or the kind that produces transparencies probably has the widest application. Transparencies are invaluable for illustrating a talk; they are virtually the only form of colour photography acceptable for publishing, and with comparatively little outlay they can be printed at home using the Cibachrome process. Commercial prints from transparencies of a good quality are readily available from most photo laboratories, using either the Kodak or Cibachrome process. Prints of an extremely high quality (and an extremely high price) are available also at some specialised laboratories. Negative colour film, such as Kodacolor Gold 100 is quite satisfactory provided the above criteria are not required to be met, but the quality of prints from negatives is inclined to vary from one lab to another. For my work, I use only Kodachrome transparency film.

Eggs and small larvae. These require a lens extension of between 140 and 330 mm, using a combination of bellows and extension tubes. It is a tabletop procedure, with the camera mounted firmly on a mini-tripod, and the lens end of the extension also resting firmly on a suitable block of wood. The auto lens is set at its smallest aperture, f22. The substrate or host plant holding the eggs is held with a clothes peg attached to a flexible mounting that I made from wooden pieces, enabling the peg to be rotated or moved back and forth. Using the 50 mm lens the subject is placed about 50 mm from the lens, and the diaphragm aperture is held open at its widest (f 2.5) by wedging open a small lever at the side of the lens barrel. A microscope illuminating lamp is used to light the subject, which is now

brought into the sharpest possible focus in the camera viewfinder, by moving the flexible mounting. When sharp, the wedge is removed from the lever (taking care to avoid any movement) causing the aperture to close to its preset reading, an apparent f 22. The flash unit, charged and attached to the camera with an extension cable is hand held at a pre-determined distance from the subject, and the exposure is made. The distance of flash to subject varies with the degree of extension. By trial and error I have found that this distance is about 50 mm when photographing a single egg with an extension of 330 mm, and about 150 mm with an extension of 140 mm for groups of eggs or small larvae, but these figures will vary with flashes of different power. A matte black background behind, but not close to, the subject produces satisfactory results, but I sometimes use a piece of blue or green pasteboard to avoid monotony.

Interesting results can be achieved by varying the angle at which the light strikes the subject. For instance, a spindle-shaped pierid egg looks quite striking if it casts a long shadow, achieved by holding the flash well to one side.

Large larvae and pupae. These are most easily photographed with the macro lens, using the extension tube if magnifications from 1 : 2 to 1 : 1 are required. Pupae and inactive larvae can be photographed in sunlight, using a tripod, and with as small an aperture as possible to ensure good depth of focus. Taken this way, backgrounds will be diffused but correctly exposed and some interesting effects of colour and light can be explored.

Flashlight exposures for these subjects are quite satisfactory but backgrounds tend to be underexposed and monotonously dark. However, if photographing night-feeding larvae such a background is quite natural. A flash exposure is essential when recording ant-associated larvae as the extremely short exposure (about 1/1000 sec) freezes all movement. Generally speaking, if flash is used outside in the daytime any ambient sunlight can be completely ignored. With the macro lens and flash that I have described above I have found that for average subjects an aperture setting of f 19 (halfway between 16 and 22) produces perfect exposures over a range of magnifications using Kodachrome 64.

Adult butterflies. These are the most difficult subjects, presenting many challenges, but patience and persistence can be rewarded at times with

some beautiful pictures. Here there is no alternative to the macro lens, which gives a range of magnifications sufficiently broad to cover all butterflies, from the tiniest skipper to birdwings. In fact the macro-lens, a comparatively recent development, has made possible what seemed before to be an almost impossible task - to photograph a living butterfly in sharp focus, in its natural environment, and without loss of the tiniest detail. The task, of course, is made easier by the use of a flashlight, and yet the most aesthetically pleasing pictures are often those made with sunlight, not flash.

In their normal habitats most butterflies have an active, rapid flight with frequent pauses to feed at flowers. It is while resting that the best opportunities arise for photography. As explained before, to use sunlight for these pictures requires a long exposure and a small aperture to get reasonable depth of focus, and consequently a tripod is essential. Pictures taken this way can be satisfying, with backgrounds correctly exposed, but the patience required can be very time consuming. The alternative is to use flash with (in the case of my equipment) an aperture of f 19. These pictures will be sharp and correctly exposed but the backgrounds will be dark, and this can be a disadvantage especially with those species which have dark coloured wings. One way to minimise this problem is to reduce the background area as much as possible by filling the frame with the butterfly, simply by changing focus. I have found that most resting species can be approached with a camera and macro-lens sufficiently closely for this to be possible.

Captive butterflies - in particular those reared from early stages - present a number of opportunities for photography with both sunlight and flash. A newly emerged butterfly will spend some time drying its wings, and then a period of quiescence will occur during which waste products from the pupal period will be expelled from its abdomen. During this time the butterfly can be handled and arranged in a natural position on flowers and foliage. If activity develops a lowering of body temperature, by placing it in a refrigerator at about 4 deg. for a few minutes will usually reduce any movement.

The choice of backgrounds for these pictures is important. Rarely is black suitable for adult butterflies. I have used a variety of materials; massed leaves, slightly out of focus, matte boards of various

colours (especially blue, and some shades of green); and various other materials will suggest themselves when photographing captive butterflies. To avoid shadows appearing on the background the flash should be attached to the camera with an extension cable and held above the subject or to one side. Again, with my equipment, the flash is held 25 cm distant and the aperture is set at f 19. Backgrounds are placed 15 to 20 cm behind the subject.

I have had some excellent results with natural sunlight by taking pictures of live specimens inside a room, with the light coming through a window. Patience, persistence and ingenuity are three qualities of great value to a butterfly photographer !

Further reading. I recommend John Shaw's "The Nature Photographer's Complete Guide to Professional Field Techniques" (Amphoto, New York). An absolutely magnificent book. My copy was bought in Hawaii for about \$A27.

LIST OF REPORTS PRESENTED - R. H. Fisher.

To Australian National Parks and Wildlife Service, Canberra.

1985. Population Status of South Australian Butterflies (LEPIDOPTERA: Hesperiidae, Papilionidae). 9 pp.

To Reserves Advisory Committee, National Parks and Wildlife Service, Adelaide

1982. Butterflies of Cleland Conservation Park, South Australia. 6 pp.
 1984. Butterflies of Gammon Ranges National Park, South Australia. 8 pp.
 1985. Butterflies of Innes National Park, South Australia. 7 pp.
 1986. Butterflies of Billiatt, Mount Rescue and Ngarkat Conservation Parks, South Australia. 6 pp.
 1987. Butterflies of Canunda National Park, South Australia. 5 pp.

LIST OF PUBLICATIONS - R. H. Fisher.

1974. Collecting in the Flinders Range, South Australia. Vict. Entom. 4(3). 34-37.
1977. New Guinea Butterflies - Part i. Lac. Vict. Entom. 7(3). 22-25.
1977. New Guinea Butterflies - Part ii. Garaina. Vict. Entom. 7(5). 54-56.
1978. New Guinea Butterflies - Part iii. The Road to Wau. Vict. Entom. 8(2). 12-14.
1978. New Guinea Butterflies - Part iv. Wau and Mount Kaindi. Vict. Entom. 8(4). 36-38.
1978. Butterflies of South Australia. Handbooks of the Flora and Fauna of South Australia. (Govt. Printer, Adelaide). 272 pp.
1983. Butterflies. In Tyler, M.J., Twidale, C.R., Ling, J.K. and Holmes, J.W. (Eds.). Natural History of the South East. (R. Soc. S. Aust., Adelaide). 215-222.
1984. (Brief Communication). Life History of the Narrow-winged Pearl White Elodina padusa (Hewiston) (LEPIDOPTERA: Papilionoidea). Trans. R. Soc. S. Aust. 108 (4). 219-220.
1984. (Brief Communication). Life History of the Sciron Skipper Traperites sciron eremicola Burns (LEPIDOPTERA: Hesperioidea). Trans. R. Soc. S. Aust. 108 (2). 131-132.
1984. Hawaiian Insects and their Origins. Vict. Entom. 14 (5). 41-50.
1985. Butterflies (LEPIDOPTERA: Hesperioidea, Papilionoidea) of Kangaroo Island, South Australia. Aust. ent. Mag. 12 (1). 2-8.
1985. (with P.B. McQuillan). Moths and Butterflies. In Twidale, C.R., Tyler, M.J. and Davies, M. (Eds.). Natural History of Eyre Peninsula. (R. Soc. S. Aust., Adelaide). 191-199.
1985. Butterflies (LEPIDOPTERA: Hesperioidea, Papilionoidea) in South Australian mediterranean areas. In Greenslade, Penelope and Majer, J.D. (Eds.) Soil and Litter Invertebrates of Australian Mediterranean-type Ecosystems. Western Australian Institute of Technology School of Biology Bulletin 12. 65-66.
1987. Butterflies and the Waite Arboretum, South Australia. Vict. Entom. 17 (4). 72-73.
1988. Nomenclature of Australian Papilionidae. Vict. Entom. 18 (3). 46-47.
1988. Book Review - Australian Tropical Butterflies. Vict. Entom. 18 (5). 86.
1988. Nomenclature of Australian Papilionidae - an update. Vict. Entom. 18 (6). 104.
1989. (In Press) Butterflies. In The Aldinga Scrub Report. Nature Conservation Society (SA).
1989. (In Press). Butterflies. In Tyler, M.J., Twidale, C.R., Davies, M. (Eds.) Natural History of the Arid Northeast. (Royal Society of S. Aust., Adelaide).

MORE ON M.J. MANSKI

I was most interested to read Kelvyn Dunn's account of the entomological life of Martin Joseph Manski in the last issue of Victorian Entomologist (19(1): 9-13). We need more of these sorts of records in print because the information can so easily slip away and be lost.

When the University of Queensland bought Joe Manski's collection (mostly Lepidoptera but with a sprinkling of other insects) in 1963 I had the task of driving up to Maryborough to pick it up and was privileged to be taken out for an afternoon in the bush. As a beginner, I can remember being enormously impressed with his knowledge of food plants. When I checked through his collection on return to Brisbane I discovered the holotype of Stilbopteryx brocki Manski, so far as I know the only species of insect which he ever described (in Queensland Naturalist 13: 114 of 1948 with a correction in 14:117). This little foray into lacewing taxonomy was undoubtedly influenced by his friendship with Ludwig Franzen, a fellow collector with a serious interest in lacewings. Manski named his new species after another fellow collector, Stan Brock, who had caught it at Kalpowar to the NW of Maryborough.

Just for the historical record it should be noted that, although Joe Manski received some publicity when he reared the Hercules Moth, Coscinocera hercules, at Cairns in 1935, he was by no means the discoverer of its life history. That honour goes to Frederick Parkhurst Dodd, "The Butterfly Man of Kuranda", who reared them soon after he settled in Kuranda in 1904 and continued to rear them regularly as one of his catalogue items for many years thereafter. One of Dodd's customers was the wealthy French collector/publisher Charles Oberthür who was so impressed that he arranged publication of Dodd's observations, including photographs of larvae, mating pairs and emerging adults, in his "Contributions à l'étude des grands Lepidopteres d'Australie" in 1916.

Geoff Monteith
Queensland Museum, Brisbane



Ian Faithfull has moved out of his(former)address at Box Hill and prior to travelling towards Northern Australia can be temporarily contacted at his parents address(Mansfield).Good luck in the N.T. or wherever Ian!

David Crosby has completed his report of the ALTONA SKIPPER.It is a very professional and comprehensive document.Fortunately the local authorities are taking the subject very seriously and have fenced off an area pointed out by Dave as being vulnerable to munching by horses.

The new and somewhat virgin M.M.B.W. BRAESIDE METRO-politan park (Cheltenham Rd,Dingley) will open next month.This park has been effectively closed to the public for at least 50 years and encloses part of the original wetlands stretching to Frankston.(Chelsea Heights was then an island within the swamp) The flora includes SNOWGUM ! and scented paperbarks. Little is known of the indigenous Entomology.The Resident Ranger is anxious for REPORTS.Any takers?

New member GRAEME KRAKE of 18 Nymph St, MITCHAM, is particularly interested in Coleoptera.He expresses an eagerness for other members with Coleoptera background to get in touch please.

Some members have all the luck! Beresford Vardy who hails from Maiden Gully in BENDIGO has noticed two Tailed Emporers (Pyrrhus Sempronius) patrolling rotting fruit suspended below his FIG TREE! Maybe they are breeding on his Camphor laurel.Beresford just happens to be within walking distance of a colony of small coppers(Lucia Limbaria)Beresford has created new records for central victoria of Abrota Ogyris,Ringed xenica, Common Imperial Blue,Common Silver Xenica and the Bright Copper,and more besides.

Thanks to W.J. Faithfull,Mansfield for article on swarming flies(DIPTERA:CHLOPIDAE).Last minute hitches in the print run for April means this interesting article will appear in JUNE issue.

FURTHER NOTES ON BUTTERFLIES AT WATTLE PARK, BURWOOD

Michael F. Braby

21 Cromwell Street, Eltham, Victoria, 3095.

Gordon N. Berg

6 Venice Street, Box Hill South, Victoria, 3128.

Wattle Park comprises an area of approximately 60 ha of open parkland, including a 12 ha golf course, and is situated within the eastern suburbs of Melbourne. A preliminary list of the butterflies which occur there, including details concerning the rediscovery of Trapezites symmopus ssp. soma, have been reported in an earlier note (Braby and Berg, 1987). The area is considered to have some conservation significance because of the retention of some natural, though degraded, vegetation, which is now virtually absent from this part of 'suburbia' and which lies in close proximity to Melbourne. A more complete list of the butterfly fauna, together with comments on the occurrence and life history of particular species, based on subsequent visits since our earlier report is presented here.

Trapezites symmopus

The early stages of T. symmopus have been found confirming earlier comments that the species was "assumed to breed there". Two colonies are established along the creek systems at each end of the park with larvae distributed in reasonable numbers amongst the host plants, Lomandra longifolia. The colonies appear isolated, being approximately 0.7 km apart, although there may be some limited interchange of adults. The western colony extends beyond the park proper into the adjacent golf course along Hercules Creek. The locality preserves an important gene pool - the only other closer locality to central Melbourne appears to be Studley Park at Kew, approximately 9.5 km from Wattle Park. Several larvae from Wattle Park have been relocated to Gresswell Forest Reserve at La Trobe University in an attempt to establish a 'new' population (Braby, unpublished data). Adults at Wattle Park are on the wing for approximately seven weeks, from late January (earliest record: 22 Jan. 1988) to mid March (latest record: 16 Mar. 1987).

Hypochrysops delicia

The presence of H. delicia spp. delos was confirmed on 2 February 1988 when several adults were observed flying rapidly around a small acacia. A female was later netted as it settled high up on the foliage of a large Albizia tree. A search for larvae was also productive with one small caterpillar located under bark of an Acacia decurrens tree about 7-8 m high and senescent. This plant is non-indigenous to the area and is of interest as it represents a new larval host plant; previously H. delicia was known to utilize only six Acacia species (vis. A. mearnsii, A. melanoxylon, A. cunninghamii, A. irrorata, A. implexa and A. flavescens) (Common and Waterhouse, 1981). The larva was reared in captivity, on A. mearnsii foliage, to the pupal stage (pupating on 14 Nov. 1988) but unfortunately the adult failed to emerge. To further our disappointment the A. decurrens tree from which the larva was taken also died and was almost immediately cut down by gardening staff and reduced to a mere stump!

Other Species

Three additional species, recorded since our previous note are Vanessa kershawi, Geitoneura acantha and Delias harpalyce. A single G. acantha male was noted along the creek at the eastern end on 22 January 1988 and presumably a very small resident population occurs there. This record is perhaps noteworthy as this species has largely disappeared from suburban areas closer to Melbourne. G. klugii also frequents Wattle Park in low numbers, but is considerably more abundant than G. acantha, which appears more ecologically specialised and vulnerable to "environmental disturbance" (Braby and New, unpublished data). At Blackburn Lake, approximately 5 km ENE of Wattle Park where the habitat is less degraded, G. acantha is still relatively common (personal observations).

Delias harpalyce was recorded on 29 December 1988 with the discovery of 20 orange pupae on the host plant Muellerina eucalyptoides. The presence of this pupal colour form during summer has not previously been documented and a more detailed account of this and the species life history will be published elsewhere (Braby and Douglas, unpublished data).

Also of conservation interest is the beautiful Ogyris abrota which we have previously recorded. This species is relatively common and adults have been observed flying in each month from October (earliest record: 4♂, 13 Oct. 1987) to April (latest record: 6♂, 18 Apr. 1988). This long flight period seems unusual and further work is needed on the life history to establish if there are more than two broods.

Butterfly Fauna

A list of the butterfly fauna known to occur at Wattle Park is presented in Table 1. A plot of the total number of species against recording time infers that nearly all species have been recorded (Fig. 1) with 83.3% of the present fauna being found after the first three visits. The approximated curve shows a slight upward trend implying that a few more species might be expected. Amongst these are Delias aganippe and Anaphaeis java, both of which have been recorded in suburban areas at Box Hill South, less than 1 km from Wattle Park.

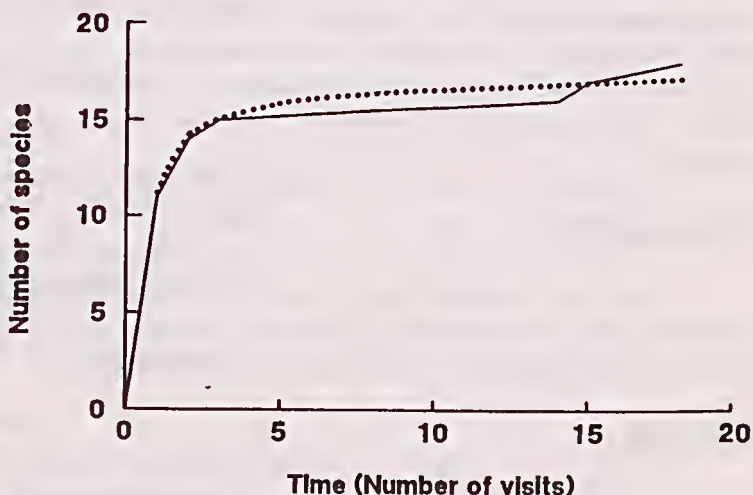


Fig. 1. Cumulative number of species recorded against sampling time expressed as the number of visits (each visit was approximately 1 hour in duration). Eighteen visits were made between 26 February 1987 and 29 December 1988. The dotted line represents an approximate curve of best fit.

Of the total number of species recorded 15 (83.3%) are believed to be resident and of these at least 7 (38.9%) probably intimately depend on the indigenous vegetation for larval host plants (Table 1). The three species which probably do not breed in the area are Papilio anactus, Pieris rapae and Vanessa itea and are considered vagrants because of an absence of the host plants. The overall figure of 18 species may indicate a relatively enriched fauna, in terms of suburban environments, and reflects the value of retaining natural vegetation upon which a number of particular species depend. Little comparable data is available and the only other suburban park which has been reasonably documented is Studley Park - Yarra Bend at Kew, approximately 3 km from Melbourne (I. Faithfull, pers. comm.). Sixteen species are currently listed for this much larger and more diverse parkland, and of these only one (A. java) is not recorded for Wattle Park. Three species (G. acantha, O. abrota, H. delicia) listed for Wattle Park are not recorded from Studley Park - Yarra Bend.

The continued survival of the more ecologically specialized species in suburban environments, such as Wattle Park, will clearly depend on the retention of the natural larval host plants and, perhaps the introduction (planting) of further plants to augment the existing remnant stands of indigenous species.

Acknowledgements

We are grateful to Mr Ian Faithfull for providing his detailed list of the butterflies of Studley Park - Yarra Bend, and to Mr Con Skyllas for typing the manuscript.

References

Braby, M.F. and Berg, G.N. (1987). A preliminary search for Trapezites symmorus Hubner at Wattle Park, with notes on other species. Victorian Ent. 17 (3): 49-51.

Common, I.F.B. and Waterhouse, D.F. (1981). Butterflies of Australia. Revised edition. Angus and Robertson, Sydney.

Table 1. Species of Butterflies recorded at Wattle Park and their probable status and dependence on indigenous vegetation during the larval stage.

Species	Status	Host Plant for species dependent on indigenous plants
	R = Resident	
	V = Vagrant	
HESPERIIDAE		
<u>Trapezites symnomus</u> Hubner	R	<u>Lomandra longifolia</u>
<u>Dispar compacta</u> (Butler)	R	Poaceae
* <u>Taractrocera papyria</u> (Boisduval)	R	
<u>Ocybadistes walkeri</u> Heron	R	
PAPILIONIDAE		
<u>Papilio anactus</u> W.S. Macleay	V	
PIERIDAE		
<u>Delias harpalyce</u> (Donovan)	R	<u>Muellerina</u>
<u>Pieris rapae</u> (L.)	V	<u>eucalyptoides</u>
NYMPHALIDAE		
<u>Geitoneura acantha</u> (Donovan)	R	Poaceae
<u>G. klugii</u> (Guerin - Meneville)	R	Poaceae
<u>Heteronympha merope</u> (F.)	R	
<u>Vanessa kershawi</u> (McCoy)	R	
<u>V. ites</u> (F.)	V	
<u>Junonia villida</u> (Godart)	R	
LYCAENIDAE		
<u>Hypochrysops delicia</u> Hewitson	R	
<u>Ogyris abrota</u> Westwood	R	<u>M. eucalyptoides</u>
<u>Nacaduba biocellata</u> (C. & R. Felder)	R	<u>Acacia</u> spp.
<u>Lampides boeticus</u> (L.)	R	
<u>Zizina labradus</u> (Godart)	R	

*This species was accidentally omitted from Braby and Berg(1987).

Entomological Riddles of Today. J. BURNS

This new article is my own contribution / innovation and I hope it takes off. Interesting unanswered questions concerning any aspect of entomology may be forwarded. It is hoped that correct answers to these questions will find their way back to the editor for illuminating copy in subsequent issues of the "Victorian Entomologist". I apologize for beginning this section with only questions concerning butterflies, this being my principle interest. I also provide a part answer to question 6.

- Q. By which gymnastic movements do Skipper butterfly larvae construct their shelters? Particularly those that add a loop or twist to the leaves of their structure? What are the sequence of logical steps up to completion?
- Q. Have any Australian butterfly species become extinct since European settlement?
- Q. Why doesn't the Swordgrass brown butterfly breed on Gahnia Radula (thatch swordgrass)
- Q. How far from their birthplace can Skipper butterflies in their lifetime fly to?
- Q. What was the distribution of Australian butterflies during the last ice-age? How did the ice-age effect tropical butterfly habitats?
- Q. What are the minimum number of foodplants required in a given area to support various butterfly species? (e.g. Gahnia Radula plants to support the Donnyssa Skipper).
- A. I have calculated both Donnyssa Skipper and the Flame Skipper only require about 40 plants to survive in a given locality. This finding has significant bearing upon local councils to provide even a smattering of Cyperaceae (grasses etc.) foodplants in revegetation works. It seems just 3-4 dozen plants will be sufficient to allow some Skipper species a bare survival after significant habitat destruction.

DISCOVERY OF ICTINUS BLUE BUTTERFLY NEAR MELBOURNE

J. Burns 274 Church Road Templestowe.

The Ictinus Blue Butterfly is a species rarely encountered south of the Great Dividing Range. It is known from localities just south of the Goulburn River (Taggerty and Thornton, also Kerrisdale) It has been caught in the Melton Gorge (one lonely specimen by Charles McCubbin) In 1975 a colony was discovered in the Sunbury area by Ashley Caffin presumably on the banks of Jacksons Creek (a tributary of the Maribyrnong River)

On a hot but windless February afternoon (17/2/89) I had concluded a business arrangement in Werribee 20 km South-West from Melbourne. Having noticed afternoon time of 3.35 I set off for the beckonong BRISBANE RANGES a further 20 km West of Werribee. As is my hopeful habit I keep a watchful eye to each side of the road ahead checking vegetation types and profiles.

After 22 minutes of careful driving and simultaneously noting the Mallee ! type of vegetation west of Werribee I began to approach a significant watercourse (given the 600mm low local rainfall. It was the large clumps of Box Mistletoe which distracted me to brake to a stop beside the meandering watercourse. The large host River Red Gums upon which hung the foodplant of a long shot chance for Genovova Ogyris. Instead as I peered about casually my gaze was fixed at a group of water loving Blackwood Wattles gaining purchase in the Alluvial debris beside the stream.

Several small Lycaenid butterflies were moving (or roving) over the face of wattle vegetation. Initially I believed I had found the Common Imperial Blue Butterfly. However closer inspection revealed 1. The presence of many Meat Ants on the ground and in arboreal positions tending various stages of larvae

2. The pupae were not grouped in large clusters and with no webbing obvious. The adult butterflies were generally smaller and not as brightly festooned with metallic blue on their upper-sides. A sortie aroundabouts showed the presence of only one other colony 200 yards upstream. Total combined population numbers was estimated at 200 butterflies!

RECENT ARTICLES OF INTEREST

Compiled by Ian Faithfull

G.B. Monteith, Insects from Kroombit Tops, with some results of a site survey of Coleoptera. Queensland Naturalist 27(1-4):27-34, Dec. 1986. Numerous significant records from this little-known high plateau in cent. Qld., 70 km SW Gladstone: Panesthia spp. (Blattodea); the very aberrant katydid Antipodectes monteithi; Myerslorella sp. (Hemiptera); a north hemisphere scorpion-fly; new north limits for several wasps; from the Coleoptera 5 Anoplognathus spp. incl. rhinastus, Rhyssonotus laticeps & Adinolepis youagae (Cupedidae), table of 17 spp. carabid & 16 spp. scarabaeine from pitfall sites with analysis of rainforest & open forest faunal distinctions; biogeographic significance of the Tops.

G.B. Monteith & D.K. Yeates, The butterflies of Kroombit Tops, cent. Qld. Qd. Nat. 27(1-4):35-40. 61 spp., with 53 in Feb., 35 in Dec. listed by month of collection and sampling area, range extensions for Dispar compacta, Ocybadistes flavovittatus (?subsp.); important addit. localities for Toxidia doubledayi, Neolucia agricola.

E.N. Marks, Mosquitoes (Culicidae) of Kroombit Tops. Qd.Nat. 27(1-4): 46-9

A. Ewart, Cicadas of Kroombit Tops. Qd.Nat. 27(1-4):50-7.

V.T. Davies, Spiders of Kroombit Tops. Qd. Nat. 27(1-4):58-9

D.K. Yeates, Protection of the eggmass by an Australian march fly. Qd. Nat. 27(1-4):41-3. At Kroombit.

G.B. Monteith, History of biological collecting at Cape York, Qld. 1770-1970. Qd.Nat. 28(1-4):42-51. Early explorers to modern. 43 refs.

G.A. Wood, The life history of Jamides cytus claudia (Waterhouse and Lyell) (Lep.:Lyc.:Lycaeninae). Qd.Nat. 28(1-4):52-4. Larvae feed inside fruit of Syzygium puberulum (Myrtaceae) and are attended by ants. Photos pupa & final instar larva. New distrib.: Pascoe River, Cape York Peninsula.

G.B. Monteith & G.A. Wood, Endospermum, ants & uranid moths in Australia. Qd. Nat. 28(1-4):35-41, Nov. 1987. Camponotus quadriceps ants nest symbiotically in hollow twig ends of these rainforest trees & feed only from their leaf glands. The large moths Alcides zodiaca & Nyctalemon patroclus breed on Endospermum (Euphorbiaceae). Discussion of occurrence of E. spp. in N. Qld.

D.M. Reeves, Some dragonflies from Jardine River, Cape York Peninsula. Qd. Nat. 28(1-4):31-2.

E.M. Exley, Bees at the Jardine Aug-Sept 1985. Qd.Nat. 28(1-4):33-4

P.G.. Allsop, New records of scarab beetles (Coleopt.) from central Queensland. Qd.Nat. 28(1-4):87-

K.J. Lambkin, The Megaloptera & Neuroptera of Mount Moffat National Park. Qd. Nat. 28(5-6):12-3, June 1988. Mt. Moffat is approx. 100 km SSW Springsure. Part of total biol. survey.

NOTICE The Entomological Society of Victoria.

Notice of Annual General Meeting

Members are advised that the next A.G.M. will be held at 8pm at the National Science Centre, 191 Royal Parade Parkville on Friday 10th June 1989.

AGENDA

1. Opening and Welcome.
2. Apologies.
3. Confirmation of minutes of last AGM.
4. Matters arising from minutes.
5. Treasurers Report.
6. Editors Report.
7. Election of New Committee.
8. Presidential Address.
9. General Business.

T R NEW Hon Sec

Call Nominations for new committee.

Nominations for Office Bearers or Members of Committee may be submitted on the enclosed form and must be in the secretary's hands not less than 7 days before the meeting (ie by the last mail on Friday 9th June.)

All signatories must be financial for the current year.

PROXIES

Members not able to be present at the A.G.M. may vote by proxy.

To do this you must obtain a proxy form from the secretary and return it to him not less than 24 hours before the meeting.

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OFFICE BEARERS.

President	-Ken Walker, Museum of Victoria, 71 Victoria Cres., Abbotsford, Vic., 3067. 419 5200 (BH)
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Hon. Editor	-John Burns, 274 Church Road Templestowe 3106 846 2441 (AH) 547 0262 (BH)
Excursions Secretary	-Peter Carwardine, 2a Victoria Road, Malvern 3144. 211 8958 (AH)
Public Officer	-David Crosby, 74 Gipps St., East Melbourne, 3002. 417 6345
Past President	-Joy Burns
Councillors	-David Crosby, Julie Field, Peter Kelly, Pat Coupar, Mike Coupar.

DIARY OF COMING EVENTS

Friday 14 April	-General Meeting.
8 pm	Bob Fisher " <u>Butterfly Photography</u> "
19 May	-Council Meeting